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| EXAMINER | |
|---|---|
| BLACKWELL, JAMES H | |
| **ART UNIT** | **PAPER NUMBER** |
| 2176 | |

DATE MAILED: 03/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/631,101 | GUNN ET AL. | |
| | Examiner | Art Unit | |
| | James H. Blackwell | 2176 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *06 January 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-56,83-85,96-106,130-133,136-139 and 142-189* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-56,83-85,96-106,130-133,136-139 and 142-189* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 August 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/13/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

1. This Office Action is in response to a withdrawal of finality that occurred as the result of a Pre-Appeal conference filed 01/06/2006. The original priority date is **03/18/1999**.

2. Claims 1-56, 83-85, 96-106, 130-133, 136-139, and 142-189 are pending.

3. Claims 1, 47, 83-85, 96, 155, and 189 are independent claims.

### *Claim Objections*

4. Claims objected to because of the following informalities: Claims 10-12 all depend on Claim 12. For purposes of examination, the Examiner has assumed that Claims 10-12 depend from Claim 1. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-5, 9, 14-21, 24, 30-32, 38-39, 46-53, 56, 84-85, 96-100, 105-106, 131, 133, 155-162, 164-165, 167-171, and 189 are rejected under 35 U.S.C. 103(a) as being unpatentable over Comer et al. (hereinafter Comer, U.S. Patent No. 5,845,300 filed 06/05/1996, issued 12/01/1998) in view of Miller (U.S. Patent No. 5,805,911 filed 02/01/1995, issued 09/08/1998)

**In regard to independent Claim 1 (and similarly independent Claim 47),**

Comer teaches *(a) receiving a partial text entry* (Figs. 3a-c show sequence in which letters are entered one at a time beginning with the single letter "B" (Fig. 3b), at which time a suggested completion candidate appears "Braves", Fig 3c shows what happens after another character "r" is entered). Thus, Comer also teaches *comprising at least a first character.*

In addition, Comer describes a system where a user enters commands and information into the personal computer (10) by using input devices such as a keyboard (28), and/or pointing devices such as a mouse (29). Typically, these input devices are connected to the system bus (18) via a serial port interface 30 or a parallel port interface (not shown in Fig. 1). Other types of pointing devices (not shown in Fig. 1) include track

pads, track balls, pens, head trackers, data gloves and other devices suitable for positioning a cursor on a computer monitor (31) (Col. 7, lines 34-53).

Comer also teaches the limitation *(b) ... obtaining a dynamically generated list of completion candidates based on the partial text entry* in that examining a suggested completion list, which is generated upon the entry of the data item, performs automatic completion of a partial data entry. The list of suggested completions is based on the contents of other data entries that are associated with the item being entered (Col. 2, lines 57-64).

Furthermore, Comer teaches an automatic completion system that is able to: (1) modify the completion list as new data items are entered and update the selection list when previously entered items are modified; (2) minimize the impact of the completion lists on system resources such as memory; and (3) minimize any delays in processing user inputs (Col. 2, lines 37-45).

Comer also teaches the limitation *(c) displaying the list of completion candidates in a search list within a graphical user interface* (e.g., see Figs. 3A-C shows entering items into a spreadsheet executing within a graphical user interface).

Comer also teaches *(d) receiving a user input signal associated with the pointing device* (see Figs. 3A-C).

Comer does not explicitly teach *receiving user input signal with a pointing device.* However, Miller teaches that a user may accept a completion suggestion from a (completion) list by touching a stylus to the display screen over the position of the desired completion suggestion (Col. 8, lines 17-19) thus producing an input signal.

Comer fails to teach *(e) if the user input signal corresponds to a first type of user selection with the pointing device, deactivating the search list.* However, Miller teaches deactivating the search list in step (428) of Fig.4. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

Comer continues by teaching *(f) if the user input signal corresponds to a second type of user selection with the pointing device, replacing the partial text entry with a completion candidate from the search list* in that once the completion suggestions have been displayed, the text completion system may receive an acceptance command associated with a particular one of the completion suggestions. In response to the acceptance command, the text completion system completes the partial data entry with the additional characters of the particular completion suggestion and discontinues the display of the prioritized list of completion suggestions (Step (428) of Fig. 4; Col. 5, lines 28-35).

**In regard to dependent Claim 2 (and similarly dependent Claim 48)**, Comer fails to teach *dynamically obtaining a refined list of completion candidates based on one of the completion candidates from the search list;* and *displaying the refined list of completion candidates in the search list for further user selection, and monitoring for a further user input signal associated with the pointing device.* However, Miller teaches such a limitation (see Fig. 4). It would have been obvious to one of ordinary skill in the

art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

**In regard to dependent Claim 3**, Comer fails to teach that *the pointing device is lifted up from an input-sensitive surface of the personal computing device without any significant movement once the search list is displayed.* However, Miller teaches the display of a list of completion suggestions for a partial data entry in response to a pause (pen up) in receipt of the data entry (Col. 7, lines 66-67, Col. 8, lines 1-2).

Miller also teaches the user may accept a completion suggestion from the list by touching the stylus to the display screen (Col. 8, lines 17-20). The pause in receipt of data entry would have suggested to one of ordinary skill in the art at the time of invention that the pointing device would have been lifted up from the input-sensitive surface providing the benefit of not invoking other functions. It also would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

**In regard to dependent Claim 4**, Comer fails to explicitly teach that *the user input signal corresponds to the first type of user selection with the pointing device when a button on a mouse is selected.* However, Miller suggests the use of arrow keys to select a completion suggestion and the "enter" key to accept the selected completion suggestion (Col. 8, lines 17-21). One of ordinary skill in the art at the time of invention

would have found it obvious to assume that any combination of regular keys, function keys, or mouse buttons could have been used with the pointing device to achieve the desired effect. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

**In regard to dependent Claim 5**, Comer fails to teach that *when a gesture is made with the pointing device towards a completion candidate in the search list to select the completion candidate and another user input signal is received indicating acceptance by the user of the completion candidate*. However, Miller teaches that the user may accept a completion suggestion from the list by touching a stylus to the display screen over the position of the desired completion suggestion, or by using the "arrow" keys to select a completion suggestion and the "enter" key to accept the selected completion suggestion (Col. 8, lines 17-21). It is also noted that the prioritized list of completion suggestions is typically displayed in a pop-up list box in a non-intrusive manner (Col. 4, lines 45-46).

Thus one of ordinary skill in the art at the time of invention would have visualized a user sliding the pointing device moving the list up or down through the list of completion candidates and then accepting one with another gesture, rendering such a sequence of gestures obvious. It would also have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both

inventions relate to auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

**In regard to dependent Claim 9**, Claim 9 reflects the method of processing text entered into a personal computing device with a pointing device as claimed in Claim 1 (and similarly Claim 47), and is rejected along the same rationale.

**In regard to dependent Claim 14**, Comer fails to teach *preparing to receive a new partial text entry once the partial text entry is replaced with a completion candidate from the search list.* However, Miller teaches that in Fig. 2B the graphical user interface (201) after the user has entered an acceptance command for a selected text completion suggestion. The transition from Fig 2A to Fig. 2B illustrates the effect of a user command accepting the completion suggestion "extremely" for the partial data entry "ext". This acceptance command causes the partial data entry "ext" to be completed with the additional characters "remely". The display of the pop-up box is then discontinued (Col. 13, lines 20-29). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

**In regard to dependent Claim 15 (and similarly dependent Claim 49)**, Comer fails to teach *receiving an end-of-entry signal and preparing to receive a new partial text entry once the end-of-entry signal is received.* However, Miller teaches that an acceptance command causes the partial data entry "ext" to be completed with the additional characters "remely". The display of the pop-up box is then discontinued (Col.

13, lines 25-29). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

**In regard to dependent method Claim 16**, Comer fails to teach *receiving an end-of-entry signal once a predetermined character or key is selected, and preparing to receive a new partial text entry once the end-of-entry signal is received.* However, Miller teaches that the user may accept the selection by entering an acceptance command (Col. 13, lines 10-12). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

**In regard to dependent method Claim 17 (and similarly dependent Claim 50)**, Comer fails to teach *preparing to receive a new partial text entry after the partial text entry is replaced with a completion candidate from the search list, but only if another user input signal is received that corresponds to an express user selection to terminate searching based on the partial text entry.* However, Miller teaches that an acceptance command causes the partial data entry "ext" to be completed with the additional characters "remely". The display of the pop-up box is then discontinued (Col. 13, lines 25-29). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to

auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

**In regard to dependent Claim 18 (and similarly dependent Claim 51)**, Comer fails to teach displaying on the graphical user interface an indication of a currently active entry mode selected from at least one of a keyboard mode and a search mode. However, Miller teaches that the user may accept a completion suggestion from the list by touching the stylus to the display screen over the position of the desired completion suggestion (Col. 4, lines 50-52). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

**In regard to dependent Claim 19 (and similarly dependent Claim 52)**, Comer fails to teach *displaying on the graphical user interface a total number of completion candidates in a dictionary that begin with the partial text entry*. However, Miller teaches that if there are text completion suggestions that satisfy the display criteria, the "YES" branch is followed from step (414) to step (418), in which the completion suggestions are displayed in priority order in the list box (206) on the LCD display (47). The maximum number of completions suggestions displayed in the pop-up list box (206) may be a user-definable parameter with a default value of five (Col. 18, lines 31-38). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to auto-completion

of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

**In regard to dependent Claim 20**, Comer fails to teach *changing selections within the search list*. However, Miller teaches that the user may change the selected completion suggestion by manipulating the position of the selection indicator using the up and down "arrow" keys on the keyboard (Col. 13, lines 7-9). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

**In regard to dependent Claim 21 (and similarly dependent Claim 53)**, Comer fails to teach *pausing without any further processing of the partial text entry or the search list until a new input signal identifying another type of user selection is received.* However, Miller teaches that the text completion system (200) detects a pause of predefined duration in the entry of the string of characters (202). The pause duration may be a user-definable parameter with a default value of 0.5 sec. If a pause occurs that is longer than the predefined duration, the text completion system (200) determines whether the string of text (202) defines a partial data entry (204) that meets certain search criteria (Col. 12, lines 10-16). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

**In regard to dependent Claim 24**, Claim 24 reflects the method of processing text entered into a personal computing device with a pointing device as claimed in Claim 1 (and similarly Claim 47), and is rejected along the same rationale.

**In regard to dependent Claim 30 (and similarly dependent Claim 56)**, Comer fails to teach *retrieving completion candidates from multiple dictionaries each having their own weight values for completion candidates and generating a final list of completion candidates for display in the search list based on weight values associated with the completion candidates retrieved from the multiple dictionaries*. However, Miller teaches that the word prediction system includes a dictionary having a list of static dictionary entries and a list of dynamic dictionary entries. The static dictionary entries are predefined for the word prediction system and do not change as the system is used. The word prediction system includes a probability score associated with each entry in the static dictionary entry. The probability score indicates the frequency of the occurrence of the particular dictionary in a large training corpus (Col. 8, lines 22-30). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

**In regard to dependent Claim 31**, Claim 31 reflects the method of processing text entered into a personal computing device with a pointing device as claimed in Claim 30 and is rejected along the same rationale.

In addition, Comer fails to teach *retrieving completion candidates and generating a final list of completion candidates for display in the search list based on both weight values and on which of the dictionaries each particular completion candidate is retrieved from*. However, Miller teaches that the word prediction system produces a prioritized list of word predictions by comparing the partial data entry to the entries in a dictionary to obtain a list of feasible words. The word prediction system submits the list of feasible words to a plurality of word prediction experts and obtains a word prediction score for each entry in the list of feasible words from each expert. The word prediction system positions each word prediction in the prioritized list of word predictions based on a computed indication of likelihood of being a correct completion suggestion (Col. 5, lines 41-51). Hence, the list of word predictions is ranked both weight values and by expert. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

**In regard to dependent Claim 32**, Comer fails to teach *displaying the search list in a fixed location on a graphical user interface*. However, Miller teaches such a limitation (Col. 8, lines 12-15). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

**In regard to dependent Claims 38 and 39**, Comer fails to teach at least one of the completion candidates from the list of completion candidates displayed in the search list near a last known set of position coordinates for the pointing device slightly offset from at least one of an x-axis or y-axis. However, Miller teaches such a limitation (Col. 8, lines 12-15). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

**In regard to dependent Claim 46**, Comer teaches *computer-readable medium* (see Fig. 1).

**In regard to independent Claim 84**, Claim 84 reflects the method of processing text entered into a personal computing device with a pointing device, as claimed in Claim 1 (and similarly Claim 47), and is rejected along the same rationale.

In addition, Comer teaches *an input interface, a processing unit, and computer-readable medium containing computer-readable instructions for directing the processing unit to assist with text generation and entry* (see Fig. 1).

**In regard to independent Claim 85**, Claim 85 reflects the method of processing text entered into a personal computing device with a pointing device, as claimed in Claim 2 (and similarly Claim 48), and is rejected along the same rationale.

**In regard to independent Claim 96 (and similarly independent Claims 155, and 189)**, Claim 96 (and similarly Claims 155, and 189) reflects the method of processing text entered into a personal computing device with a pointing device, as

claimed in Claims 1-2 (and similarly Claims 47-48), and is rejected along the same rationale.

**In regard to dependent Claim 97**, Comer fails to teach *(a) receiving a new user input signal associated with the pointing device* and *(b) if the new user input signal corresponding to accepting a completion candidate from the second plurality of completion candidates displayed in the search list to the partial text entry, modifying the partial text entry to become the accepted completion rep candidate from the second plurality of completion candidates displayed in the search list* and *(c) if the new user input signal corresponds to selecting a completion candidate from the second plurality of completion candidates displayed in the search list to initiate further searching, obtaining a further plurality of completion candidates based on the selected completion candidate and displaying the further plurality of completion candidates in the search list for further selection*. However, Miller teaches that the sequence of events depicted in the flow chart (Fig. 4) will repeatedly and dynamically reduce (or increase) the number of completion candidates based on user input of characters. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

**In regard to dependent Claim 98 (and similarly dependent Claims 159, and 168)**, Comer teaches *displaying ... a graphical indication when at least one more additional completion candidate beginning with the partial text entry is available in*

*addition to the completion candidates displayed in the search list* in that a bar indicator covers those character suggestions not yet acted upon (see Figs. 7a-c).

**In regard to dependent Claim 99 (and similarly dependent Claims 161, and 169)**, Comer teaches *displaying the completion candidates in the search list with the part of each completion candidate matching the partial text entry displayed in a manner different from the remaining part of each of the completion candidates displayed in the search list* (see Figs. 7a-c).

**In regard to dependent Claim 100, (and similarly dependent Claims 162, and 170)**, Comer teaches *displaying a completion candidate in substantially the same position in the search list each time the completion candidate is displayed in the search list* (see Figs. 7a-c).

**In regard to dependent Claims 105 and 106**, Comer fails to teach *obtaining, for display in the search list, a second dynamically generated list of completion candidates based on the partial text entry, in response to modification of the partial text entry.* However, Miller teaches such a limitation (See Fig. 4). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

**In regard to dependent Claims 131, 133,** Claims 131, 133 reflect the method of processing text entered into a personal computing device with a pointing device as claimed in Claim 104 and is rejected along the same rationale.

**In regard to dependent Claim 156**, Claim 156 reflects the method/computer-readable medium of processing text entered into a user interface with a pointing device as claimed in Claim 96, and is rejected along the same rationale.

**In regard to dependent Claims 157 (and similarly dependent Claims 160, and 164)**, Claims 157, 160, and 164 reflect the methods, systems, and computer-readable mediums of processing text entered into a user interface with a pointing device as claimed in Claims 84-85, 96, and 155, and are rejected along the same rationale.

**In regard to dependent Claim 158 (and similarly dependent Claims 165, and 167)**, Claims 158, 165, and 167 reflect the methods, systems, and computer-readable mediums of processing text entered into a user interface with a pointing device as claimed in Claims 84-85, 96, and 155, and are rejected along the same rationale.

**In regard to dependent Claim 171**, Claim 171 reflects the method of processing text entered into a personal computing device with a pointing device as claimed in Claim 142 and is rejected along the same rationale.

**In regard to dependent Claims 173 (and similarly dependent Claim 177)**, Claims 173, and 177 reflect the system of processing text entered into a personal computing device with a pointing device as claimed in Claim 171 and is rejected along the same rationale.

7. Claims 83, and 166 are rejected under 35 U.S.C. 103(a) as being unpatentable over Comer in view of Miller, and in further view of O'Hagen et al. (hereinafter O'Hagen, U.S. Patent No. 5,821,512 filed 06/26/1996, issued 10/13/1998).

**In regard to independent Claim 83**, Claim 83 reflects the method of processing text entered into a personal computing device with a pointing device, as claimed in Claims 1-2 (and similarly Claims 47-48), and is rejected along the same rationale.

In addition, Comer fails to teach the limitation *(g) if the user input signal corresponds to a third type of user selection with the pointing device, dynamically obtaining a refined list of completion candidates based on one of the completion candidates from the search list, displaying the refined list of completion candidates in the search list for further user selection, and monitoring for a further user input signal associated with the pointing device*. However, O'Hagen teaches that a virtual keyboard 280 may be used to input a product name by sequentially pressing areas of the screen 14 to spell out a product name. As the product name is spelled out, the typed letters will appear in block 281 and the scroll list will move to the products, which fit the partially typed description. After the customer has positioned the highlight bar 278 over the desired item, a virtual select button 282 is used to confirm the highlighted choice, the help find subroutine advances to step 504 where the location of the selected item is displayed to the customer (Col. 11, lines 66-67; Col. 12, lines 1-15). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and O'Hagen as both inventions relate to the input of partial

characters. Adding the teaching of O'Hagen provides the benefit of dynamic refinement of choices.

**In regard to dependent Claim 166**, Claim 166 reflects the method/computer-readable medium of processing text entered into a user interface with a pointing device as claimed in Claim 83, and is rejected along the same rationale.

8. Claims 6, 8, 10-11, 130, 132, and 138-139 are rejected under 35 U.S.C. 103(a) as being unpatentable over Comer in view of Miller, and in further view of Agulnick et al. (hereinafter, Agulnick, U.S. Patent No. 5,347,295 filed 10/31/1990, issued 09/13/1994).

**In regard to dependent Claim 6**, Comer fails to teach *a gesture is made with the pointing device onto a completion candidate in the search list to select the completion candidate, and the completion candidate remains selected for a predetermined time limit.* However, Agulnick teaches an event begins when the stylus touches the front surface of the display, input is then terminated in one of three ways: (a) by lifting the stylus from the surface; (b) by a series of strokes followed by a final lift of the stylus and lack of contact for a specific time interval, or "timeout" (Col. 1, lines 66-68, Col. 2, lines 1-3). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Agulnick as both inventions relate to pen-based computing. Adding the teaching of Agulnick provides the benefit of assuring that the user had chosen the right option.

**In regard to dependent Claim 8**, Comer fails to teach *when a motion is made with the pointing device in a particular direction associated with a desired completion*

*candidate for at least a predetermined distance while the pointing device is in an active state and a further action is made with the pointing device to accept the desired completion candidate.* However, Agulnick teaches that in general, the user will bring the tip of the stylus towards the screen ... and upon contact with the layer a gesture may be drawn. When the user is finished drawing the gesture, the stylus tip is simply removed from the layer and the system automatically detects this motion and processes the gesture (Col. 8, lines 54-64). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Agulnick as both inventions relate to pen-based computing. Adding the teaching of Agulnick provides the benefit of processing a gesture.

**In regard to dependent Claims 10 and 11**, Claims 10 and 11 reflect the method of processing text entered into a personal computing device with a pointing device as claimed in Claim 6, and are rejected along the same rationale.

**In regard to dependent Claims 130, 132, and 138**, Comer fails to teach *obtaining a refined list of completion candidates for display in the search list.* However, Miller teaches such a limitation (see Fig. 4). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

Comer also fails to teach *when a completion candidate in the search list remains selected for a* predetermined time limit. However, Agulnick teaches an event begins

when the stylus touches the front surface of the display, input is then terminated in one of three ways: (a) by lifting the stylus from the surface; (b) by a series of strokes followed by a final lift of the stylus and lack of contact for a specific time interval, or "timeout" (Col. 1, lines 66- 68, Col. 2, lines 1-3). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer, Miller, and Agulnick as all three inventions relate to pen-based computing. Adding the teaching of Agulnick provides the benefit of assuring that the user had chosen the right option.

**In regard to dependent Claim 139,** Claim 139 reflects the method of processing text entered into a personal computing device with a pointing device as claimed in Claim 104 and is rejected along the same rationale.

9. Claims 136-137 are rejected under 35 U.S.C. 103(a) as being unpatentable over Comer in view of Miller, and in further view of O'Hagen, and in further view of Agulnick.

**In regard to dependent Claim 136**, Comer fails to teach *obtaining a refined list of completion candidates for display in the search list.* However, Miller teaches such a limitation (see Fig. 4). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

Comer also fails to teach *when a completion candidate in the search list remains selected for a* predetermined time limit. However, Agulnick teaches an event begins

when the stylus touches the front surface of the display, input is then terminated in one of three ways: (a) by lifting the stylus from the surface; (b) by a series of strokes followed by a final lift of the stylus and lack of contact for a specific time interval, or "timeout" (Col. 1, lines 66- 68, Col. 2, lines 1-3). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer, Miller, and Agulnick as all three inventions relate to pen-based computing. Adding the teaching of Agulnick provides the benefit of assuring that the user had chosen the right option.

**In regard to dependent Claim 137,** Claim 137 reflects the method of processing text entered into a personal computing device with a pointing device as claimed in Claim 104 and is rejected along the same rationale.

10. Claim 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Comer in view of Miller, and in further view of Forcier (U.S. Patent No. 5,220,649 filed 04/29/1991, issued 06/15/1993).

**In regard to dependent Claim 7**, Comer fails to teach that *when a gesture is made with the pointing device in a direction associated with a desired completion candidate without the pointing device necessarily moving towards or onto a portion of the graphical user interface where the completion candidate is displayed.* However, Forcier teaches a Pen Moved Event (see Fig. 3C1, 3C2). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Forcier as both inventions relate to pen-based computing. Adding the teaching of

Forcier provides the benefit of inserting space wrapping and moving forward any words that cross the right margin.

11. Claims 12-13, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Comer, in view of Miller, and in further view of Niemeier (U.S. Patent No. 5,574,482 filed 10/31/1995, issued 11/12/1996).

**In regard to dependent Claim 12**, Comer fails to teach *when a predetermined character or key is selected.* However, Niemeier teaches a QWERTY style keyboard with various letters of the alphabet being selected on a touch-sensitive screen with an input device (see Figs. 1-29). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Niemeier as both inventions relate to pen-based computing. Adding the teaching of Niemeier provides the benefit of detecting a keystroke on a touch-sensitive screen.

**In regard to dependent Claim 13**, Claim 13 reflects the method for processing text entered into a personal computing device with a pointing device as claimed in Claims 6 and 8, and is rejected along the same rationale.

**In regard to dependent Claim 26**, Comer fails to teach *configuring a digital keyboard to include a plurality of characters assigned to predetermined locations within a layout for the digital keyboard according to a predetermined frequency distribution associated with the plurality of characters, the plurality of characters including less commonly used characters and more commonly used characters based on the predetermined frequency distribution.* However, Niemeier teaches a digital keyboard

including a plurality of characters in predetermined locations based on any number of layouts. Once a key is depressed, a list of temporary keys predetermined by the study of word frequency and the sequence of letters in the language appear around the depressed key. In this arrangement the most often used keys or sequences of keys are located closer to the depressed key than the lesser used key or keys (Col. 5, lines 15-25, Figs 4-32). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Niemeier as both inventions relate to pen-based computing. Adding the teaching of Niemeier provides the benefit of using a virtual keyboard in an efficient manner.

12. Claims 22-23, 25, 33-34, 54-55, 101-104, 142-145, 163, and 172-188 are rejected under 35 U.S.C. 103(a) as being unpatentable over Comer in view of Miller, and in further view of Skinner et al. (hereinafter, Skinner, U.S. Patent No. 6,661,920 filed 01/19/2000, issued 12/09/2003).

**In regard to dependent Claim 22 (and similarly dependent Claim 54)**, Comer fails to teach *displaying the digital keyboard on a user interface of the personal computing device when a user is entering text a keystroke at a time.* However, Skinner teaches a "virtual keyboard" (see Abstract). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Skinner as both inventions relate to pen-based. Adding the teaching of Skinner provides the benefit of displaying and using a virtual keyboard.

Skinner does not specifically teach *monitoring for user input*. However, Miller teaches a text completion system that monitors the entry of a stream of characters into a data file associated with a program module running on a computer system. The stream of characters defines a plurality of complete data entries followed by a partial data entry, which are displayed on a display screen. (Col. 4, lines 63-67; Col. 5, line 1).

Miller also teaches *(c) if the user input corresponds to activating the search list, replacing the digital keyboard with the search list and waiting for further user input* (Col. 7, lines 66-67, Col. 8, lines 1-2).

Miller also teaches (d) if the user input corresponds to terminating use of the search list once activated, replacing the search list with the digital keyboard and waiting for further user input at step (410) of Fig. 4 if the partial data entry does not satisfy the search criteria, then go to step (402) which waits to receive another character. It would have been obvious to combine the teachings of Comer, Miller, and Skinner as all three inventions relate to character input. Adding the teaching of Skinner provides the benefit of displaying and using a virtual keyboard.

**In regard to dependent Claim 23 (and similarly dependent Claim 55)**, Comer fails to teach *that at least part of the partial text entry is received via a digital keyboard, the method further comprising displaying simultaneously both the digital keyboard and the search list.* However, Skinner teaches a method and system for providing simultaneous data entry for a computer system having both on-screen keyboard entry and mechanisms for handwriting recognition entry (Col.2, lines 54-57). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the

teachings of Comer and Skinner as both inventions relate to pen-based input of characters. Adding the teaching of Skinner provides the benefit of displaying and using a virtual keyboard.

**In regard to dependent Claim 25**, Comer fails to teach that *at least part of the partial text entry is received via a digital keyboard, the method further comprising swapping between displaying one digital keyboard layout and at least one other digital keyboard layout in response to user input.* However, Skinner teaches display of multiple keyboards controlled by buttons. In this case, button (430) relates to alphabetic characters, button (440) relates to numeric characters, and button (450) relates to international characters (see Fig. 7a). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Skinner as both inventions relate to pen-based computing. Adding the teaching of Skinner provides the benefit of displaying and using a virtual keyboard.

**In regard to dependent Claim 33**, Comer fails to teach that *at least part of the partial text entry is received via a digital keyboard, the method further comprising displaying the search list docked with the digital keyboard.* However, Skinner teaches a method and system for providing simultaneous data entry for a computer system having both on-screen keyboard entry and mechanisms for handwriting recognition entry (Col.2, lines 54-57). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Skinner as both inventions relate to pen-based computing. Adding the teaching of Skinner provides the benefit of displaying and using a virtual keyboard.

**In regard to dependent Claim 34**, Comer fails to teach *displaying the digital keyboard in response to a user selection, and hiding the digital keyboard in response to another user selection*. However, Skinner teaches when a user taps button (520) or buttons (325) with the stylus (80), a virtual keyboard window opens on screen (105) along with data entry window (310) (Col. 7, lines 20-22).

Skinner also suggests *hiding the digital keyboard in response to another user selection* in that there exist other buttons that one might enter after entering letters to for example accept the current word. Specifically, the Done and Cancel buttons on the virtual keyboard would have suggested, at least by their usual and customary meaning at the time of invention to dismiss the virtual keyboard (Fig. 7a). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Skinner as both inventions relate to pen-based computing. Adding the teaching of Skinner provides the benefit of displaying and using a virtual keyboard.

**In regard to dependent Claim 101 (and similarly dependent Claim 163)**, Comer fails to teach *displaying simultaneously a digital keyboard and the search list, wherein at least part of the partial text entry is received via the digital keyboard, and wherein the partial text entry is modified via any of the digital keyboard and the search list*. However, Skinner teaches a method and system for providing simultaneous data entry for a computer system having both on-screen keyboard entry and mechanisms for handwriting recognition entry (Col.2, lines 54-57). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and

Skinner as both inventions relate to pen-based computing. Adding the teaching of Skinner provides the benefit of displaying and using a virtual keyboard.

**In regard to dependent Claim 102**, Claim 102 reflects the method of processing text entered into a personal computing device with a pointing device as Claimed in Claim 96 and is rejected along the same rationale.

**In regard to dependent Claim 103 (and similarly dependent Claim 145)**, Comer fails to teach *(a) ... the partial text entry via a digital keyboard displayed in the graphical user* interface. However, Skinner teaches a method and system for providing simultaneous data entry for a computer system having both on-screen keyboard entry and mechanisms for handwriting recognition entry (Col.2, lines 54-57). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Skinner as both inventions relate to pen-based computing. Adding the teaching of Skinner provides the benefit of displaying and using a virtual keyboard.

Comer does teach the additional limitation of *at least a first character* (Figs. 3a-c show sequence in which letters are entered one at a time beginning with the single letter "B" (Fig. 3b), at which time a suggested completion candidate appears "Braves", Fig 3c shows what happens after another character "r" is entered).

In addition, Comer describes a system where a user enters commands and information into the personal computer (10) by using input devices such as a keyboard (28), and/or pointing devices such as a mouse (29). Typically, these input devices are connected to the system bus (18) via a serial port interface 30 or a parallel port interface

(not shown in FIG. 1). Other types of pointing devices (not shown in Fig. 1) include track pads, track balls, pens, head trackers, data gloves and other devices suitable for positioning a cursor on a computer monitor (31) (Col. 7, lines 34-53).

Comer fails to teach *(b) displaying simultaneously the search list and the digital keyboard in the graphical user interface when the partial text entry comprises at least the first character.* However, Skinner teaches a method and system for providing simultaneous data entry for a computer system having both on-screen keyboard entry and mechanisms for handwriting recognition entry (Col.2, lines 54-57). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Skinner as both inventions relate to pen-based computing. Adding the teaching of Skinner provides the benefit of displaying and using a virtual keyboard.

**In regard to dependent Claim 104**, Claim 104 reflects the method of processing text entered into a personal computing device with a pointing device as claimed in Claim 103 and is rejected along the same rationale.

**In regard to dependent Claim 142,** Comer fails to teach (a) displaying a digital keyboard in a graphical user interface and (b) receiving at least part of the partial text entry via the digital keyboard and (c) modifying the partial text entry via any of the digital keyboard and the search list. However, Skinner teaches a method and system for providing simultaneous data entry for a computer system having both on-screen keyboard entry and mechanisms for handwriting recognition entry (Col.2, lines 54-57). It would have been obvious to one of ordinary skill in the art at the time of invention to

combine the teachings of Comer and Skinner as both inventions relate to pen-based computing. Adding the teaching of Skinner provides the benefit of displaying and using a virtual keyboard.

**In regard to dependent Claim 143 (and similarly dependent Claim 148),** Claim 143 (and similarly Claim 148) reflects the method of processing text entered into a personal computing device with a pointing device as Claimed in Claim 101, and is rejected along the same rationale.

**In regard to dependent Claim 144 (and similarly dependent Claim 149),** Claim 144 (and similarly Claim 149) reflect the method of processing text entered into a personal computing device with a pointing device as claimed in Claim 96, and are rejected along the same rationale

**In regard to dependent Claim 146**, Claim 146 reflects the method of processing text entered into a personal computing device with a pointing device as claimed in Claim 142, and is rejected along the same rationale.

**In regard to dependent Claim 147**, Claim 147 reflects the method of processing text entered into a personal computing device with a pointing device as claimed in Claim 96, and is rejected along the same rationale.

**In regard to dependent Claim 150**, Claim 150 reflects the method of processing text entered into a personal computing device with a pointing device as claimed in Claim 104, and is rejected along the same rationale.

**In regard to dependent Claims 151-153**, Comer fails to teach *replacing the digital keyboard with the search list in response to a user input signal associated with*

*activating the search list*. However, Miller teaches such a limitation (Col. 7, lines 66-67, Col. 8, lines 1-2). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

**In regard to dependent Claim 154**, Claim 154 reflects the method of processing text entered into a personal computing device with a pointing device as Claimed in Claim 104 and is rejected along the same rationale.

**In regard to dependent Claim 172 (and similarly dependent Claim 178)**, Claim 172 (and similarly Claim 178) reflect the system of processing text entered into a personal computing device with a pointing device as claimed in Claim 163, and is rejected along the same rationale.

**In regard to dependent Claims 173 (and similarly dependent Claim 177)**, Claims 173, and 177 reflect the system of processing text entered into a personal computing device with a pointing device as claimed in Claim 171 and is rejected along the same rationale.

**In regard to dependent Claim 174**, Comer fails to teach *(a) ... of the partial text entry via a digital keyboard displayed in a graphical user interface*. However, Skinner teaches a "virtual keyboard" (see Abstract). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Skinner as both inventions relate to pen-based. Adding the teaching of Skinner provides the benefit of displaying and using a virtual keyboard.

Comer does teach the additional limitation *receiving at least a first character* (Figs. 3a-c show sequence in which letters are entered one at a time beginning with the single letter "B" (Fig. 3b), at which time a suggested completion candidate appears "Braves", Fig 3c shows what happens after another character "r" is entered).

In addition, Comer describes a system where a user enters commands and information into the personal computer (10) by using input devices such as a keyboard (28), and/or pointing devices such as a mouse (29). Typically, these input devices are connected to the system bus (18) via a serial port interface 30 or a parallel port interface (not shown in FIG. 1). Other types of pointing devices (not shown in Fig. 1) include track pads, track balls, pens, head trackers, data gloves and other devices suitable for positioning a cursor on a computer monitor (31) (Col. 7, lines 34-53).

Comer fails to teach *(b) means for displaying simultaneously the search list and the digital keyboard in the graphical user interface when the partial text entry comprises at least the first character.* However, Skinner teaches a method and system for providing simultaneous data entry for a computer system having both on-screen keyboard entry and mechanisms for handwriting recognition entry (Col.2, lines 54-57). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Skinner as both inventions relate to pen-based computing. Adding the teaching of Skinner provides the benefit of displaying and using a virtual keyboard.

**In regard to dependent Claim 175**, Comer fails to teach *(a) means for receiving at least part of the partial text entry via a digital keyboard* and *(b) means for displaying*

*simultaneously the digital keyboard and the search list in a graphical user interface while the digital keyboard is in use*. However, Skinner teaches a method and system for providing simultaneous data entry for a computer system having both on-screen keyboard entry and mechanisms for handwriting recognition entry (Col.2, lines 54-57). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Skinner as both inventions relate to pen-based computing. Adding the teaching of Skinner provides the benefit of displaying and using a virtual keyboard.

**In regard to dependent Claim 176**, Comer fails to teach *means for displaying a digital keyboard for generating at least part of the partial text entry*. However, Skinner teaches a "virtual keyboard" (see Abstract). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Skinner as both inventions relate to pen-based. Adding the teaching of Skinner provides the benefit of displaying and using a virtual keyboard.

**In regard to dependent Claim 179**, *means for obtaining a modified set of completion candidates that begin with the partial text entry as the partial text entry is modified.*

**In regard to dependent Claim 180**, Comer fails to teach *means for displaying simultaneously the digital keyboard and the search list in a user interface while the digital keyboard is in use*. However, Skinner teaches a method and system for providing simultaneous data entry for a computer system having both on-screen keyboard entry and mechanisms for handwriting recognition entry (Col.2, lines 54-57). It would have

been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Skinner as both inventions relate to pen-based computing. Adding the teaching of Skinner provides the benefit of displaying and using a virtual keyboard.

**In regard to dependent Claim 181-183**, Comer fails to teach means for replacing the digital keyboard with the search list in response to a user input signal associated with activating the search list. However, Miller teaches such a limitation (Col. 7, lines 66-67, Col. 8, lines 1-2). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Miller as both inventions relate to auto-completion of text inputs. Adding the teaching of Miller provides the benefit of the specific use of a pointing device to assist in user inputs.

**In regard to dependent Claim 184**, Claim 184 reflects the system of processing text entered into a personal computing device with a pointing device as Claimed in Claim 175, and is rejected along the same rationale.

**In regard to dependent Claims 185-188**, Comer teaches *computer-readable medium* (see Fig. 1).

13. Claims 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Comer in view of Miller, and in further view of Skinner, and in further view of Lee (U.S. Patent No. 6,292,179 filed 05/06/1999, issued 09/18/2001).

**In regard to dependent Claim 27**, Comer fails to teach *characters within the digital keyboard are displayed in rings with the characters in at least one ring organized*

*alphabetically in a clockwise order*. However, Lee teaches a software keyboard system using the trace direction of a stylus, in which a key includes a plurality of key codes, and thus the key code is selected in accordance with the trace of the stylus drawn on the key (Col. 1, lines 52-56; Figs. 4a-b, 5a-b). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Lee as both inventions relate to pen-based computing. Adding the teaching of Lee provides the benefit of more efficient use of screen space.

Lee fails to specifically teach *rings with the characters in at least one ring organized alphabetically in a clockwise order*. However, Lee does teach a method that saves screen space for characters of a digital keyboard. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Lee as both inventions relate to pen-based computing. Adding the teaching of Lee provides the benefit of more efficient use of screen space.

**In regard to dependent Claim 28**, Comer fails to teach that *characters within the digital keyboard are displayed in rings with the characters in at least one ring organized alphabetically in a counter-clockwise order*. However, Lee teaches a software keyboard system using the trace direction of a stylus, in which a key includes a plurality of key codes, and thus the key code is selected in accordance with the trace of the stylus drawn on the key (Col. 1, lines 52-56; Figs. 4a-b, 5a-b). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Lee as both inventions relate to pen-based computing. Adding the teaching of Lee provides the benefit of more efficient use of screen space.

Lee fails to specifically teach a *ring organized alphabetically in a counter-clockwise order.* However, Lee does teach a method that saves screen space for characters of a digital keyboard. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Lee as both inventions relate to pen-based computing. Adding the teaching of Lee provides the benefit of more efficient use of screen space.

**In regard to dependent Claim 29**, Comer fails to teach *characters within the digital keyboard are displayed in rings with about half of the characters in at least one ring ordered alphabetically in a counter-clockwise order and the remaining characters in the at least one ring organized alphabetically in a clockwise order.* However, Lee teaches a software keyboard system using the trace direction of a stylus, in which a key includes a plurality of key codes, and thus the key code is selected in accordance with the trace of the stylus drawn on the key (Col. 1, lines 52-56). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Lee as both inventions relate to pen-based computing. Adding the teaching of Lee provides the benefit of more efficient use of screen space.

Lee fails to teach *rings organized alphabetically in a clockwise and counter-clockwise order.* However, Lee does teach a method that saves screen space for characters of a digital keyboard. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Lee as both inventions relate to pen-based computing. Adding the teaching of Lee provides the benefit of more efficient use of screen space

14. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Comer in view of Miller, and in further view of Skinner in further view of LaGrange et al. (hereinafter, LaGrange, U.S. Patent No. 5,914,708 filed 04/04/1996, issued 06/22/1999).

**In regard to dependent Claim 35**, Comer fails to teach *sensing for the pointing device with a proximity sensing input surface, displaying the digital keyboard when the pointing device is detected within a predetermined distance of a proximity sensing input surface, and hiding the digital keyboard when the pointing device not detected within the predetermined distance of the proximity sensing input surface*. However, LaGrange teaches a system comprising a conductive stylus used in conjunction with a capacitance sensitive touch pad, said system providing at least two different signals to an associated computer system (see Abstract).

LaGrange does not specifically teach *displaying and hiding a digital keyboard*. However, LaGrange does teach a method by which tools such as a digital keyboard can be activated and deactivated by a stylus device on a proximity sensitive screen. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and LaGrange as both inventions relate to pen-based computing. Adding the teaching of LaGrange provides the benefit of sensing the proximity of a pointing device to a touch-sensitive screen.

15. Claims 36, 40-42, and 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Comer in view of Miller, and in further view of Skinner, and in further view of Bi et al. (hereinafter, Bi, U.S. Patent No. 6,262,719 filed 10/23/1997, issued 07/17/2001).

**In regard to dependent Claim 36**, Comer fails to teach *displaying a cursor on a screen that tracks movement with the pointing device including displaying the cursor over the digital keyboard when the digital keyboard is active.* However, Bi teaches a passive stylus that can be used in either a pen mode or a mouse mode. In a mouse mode, however, a cursor may be generated which follows the "tip" of the pen (Col. 3, lines 55-61).

Bi also teaches a virtual keyboard as part of the GUI. Activation of the keys on the virtual keyboard is by way of the stylus or by finger input (Col. 3, lines 62-65).

Bi does not specifically teach *displaying the cursor over the digital keyboard when the digital keyboard is active.* However, Bi does teach a cursor and a virtual keyboard, the activation of which is done by the way of a stylus or finger leading one of ordinary skill in the at the time of invention to combine the teachings of Comer and Bi as both inventions relate to pen-based computing. Adding the teaching of Bi provides the benefit of a cursor that follows the movement of a stylus on a touch-sensitive screen.

**In regard to dependent Claims 40-41 (and similarly dependent Claim 42)**, Comer fails to teach *the cursor is displayed so as to track the movement of the pointing device precisely.* However, Bi teaches a passive stylus that can be used in either a pen

mode or a mouse mode. In a mouse mode, however, a cursor may be generated which follows the "tip" of the pen (Col. 3, lines 55-61).

Bi also teaches a virtual keyboard as part of the GUI. Activation of the keys on the virtual keyboard is by way of the stylus or by finger input (Col. 3, lines 62-65). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Bi as both inventions relate to pen-based computing. Adding the teaching of Bi provides the benefit of a cursor that follows the movement of a stylus on a touch-sensitive screen.

**In regard to dependent Claim 44 (and similarly dependent Claim 45)**, Comer fails to teach *displaying the digital keyboard near where a pointing device is located in electronic text*. However, Skinner teaches a virtual keyboard screen (315) below a data entry window (310), (see Fig. 6). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and Skinner as both inventions relate to pen-based computing. Adding the teaching of Skinner provides the benefit of placing a digital keyboard in a convenient location on a touch-sensitive screen.

16. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Comer in view of Miller, and in further view of Skinner, and in further view of Bi, and in further view of White et al. (hereinafter White, U.S. Patent No. 5,982,351 filed 09/30/1997, issued 11/09/1999).

**In regard to dependent Claim 37**, Comer fails to explicitly teach *relocating the cursor to a center of the digital keyboard when a character from the digital keyboard is selected.* However, White teaches relocating a cursor in such a manner (Col. 4, lines 28-53). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and White as both inventions relate to the input of characters. Adding the teaching of White provides the benefit of quickly relocating a cursor on a virtual keyboard so that the user can find it.

17. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Comer in view of Miller, and in further view of Skinner, and in further view of Bi and in further view of LaGrange.

**In regard to dependent Claim 43**, Comer fails to teach *the cursor is displayed on the screen in a position remote from the pointing device.* However, LaGrange teaches a system comprising a conductive stylus used in conjunction with a capacitance sensitive touch pad, said system providing at least two different signals to an associated computer system. The stylus is a pen-like device having an actable switch which when actuated substantially increases the capacitive disturbance caused by the conductive stylus on the touch pad (see Abstract). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Comer and LaGrange as both inventions relate to pen-based computing. Adding the teaching of LaGrange provides the benefit of sensing the proximity of a pointing device to a touch-sensitive screen.

***Response to Arguments***

18. Applicant's arguments, see Request for Pre-Appeal Conference, filed 12/14/2005, *substantially* with respect to the rejection(s) of independent claim(s) containing the limitation *(a) receiving a partial text entry comprising at least a first character* and previously rejected under Miller in view of Hachamovitch have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Comer, which teaches the limitation *(a) receiving a partial text entry comprising at least a first character* (see rejection of Claim 1). The combination of Miller and Hachamovitch are no longer being relied upon to teach such a limitation.

With respect to the use of official notice, the Examiner restores previous rejections based on art and introduces new rejections based on the prior art of White et al.

With respect to the rejection of Claims 83 and 84, the Examiner has responded to previously omitted arguments.

***Conclusion***

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James H. Blackwell whose telephone number is 571-272-4089. The examiner can normally be reached on Mon-Fri.

20. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather R. Herndon can be reached on 571-272-4136. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

21. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James H. Blackwell
03/14/2006

William F. Bashore
WILLIAM BASHORE
PRIMARY EXAMINER
3/15/2006